

A Container and Attachment Apparatus

Technical Field

The present invention relates to a container and apparatus for releasably mounting the container to an item of clothing such as, but not limited to, a belt. The present invention
5 also relates to an apparatus for selectively combining substances.

Background of the Invention

It is common for persons to carry a container of water or other liquid in various situations. For instance, a person attending a gymnasium will often be in possession of a container of
10 water, an energy drink or the like in order to provide re-hydration. However, the person's ability to effectively exercise or use fitness equipment is hindered by the need for the person to carry the container of water or energy drink. Furthermore, in a crowded environment, a bottle may be placed next to a similar-looking bottle and consequently if the user mistakenly pick ups and uses the wrong bottle a health issue may arise.

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Similarly, in a nightclub situation, it is both cumbersome and inconvenient for a person to dance or socialise whilst simultaneously having to hold a container of drink in one's hand.

It is also inconvenient to have to place a container in a temporary location whilst
20 performing exercise or dancing, as there is a possibility that the unattended container may be either stolen, misplaced, or deliberately contaminated by a third party. Hence, the overall level of enjoyment and effectiveness in performing recreational activities is ultimately diminished in this way.

25 Many medicinal products such as aspirin and the like are currently available in the market which are used by consumers to cure headaches and other ailments. Such tablets are typically dissolved in a liquid before consumption. A problem arises in that it is necessary to purchase the tablet and liquid separately and to combine them in a common vessel. This

is an inefficient and inconvenient process especially for older persons where the handling of an aspirin and a container can be a difficult task.

Summary of the Invention

- 5 The present invention seeks to provide an apparatus for releasably mounting a container to an item of clothing. The present invention also seeks to provide an apparatus for controllably combining substances.

10 In one broad form, the present invention provides an apparatus for releasably attaching a container to an item of clothing and/or belt or other, including a first portion releasably engageable with the container and a second portion fixed to the first portion and being releasably engageable with the item of clothing and/or belt or other.

15 Preferably, the first portion includes a protrusion for releasably engaging with a corresponding cavity in the container. Also preferably, the protrusion is resiliently engageable with the corresponding cavity and may be adapted for snap-fitting engagement with the corresponding cavity. Typically, a plurality of protrusions are included for releasably engaging with corresponding cavities in the container.

20 Preferably the second portion is a clip suitable for attaching to an item of clothing such as a belt. Preferably the clip is spring-biased to a closed position to improve its ease of attachment. A person skilled in the art would readily understand that a hook or other attachment means may be used instead of a clip in an alternative embodiment of the present invention.

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Preferably, the first portion is secured to the second portion by a bridging member such that said first portion is disposed on an opposite side of said bridging member to said second portion. More preferably, the bridging member is a circular plate wherein the plate

is able to rest firmly against the surface of the item of clothing such as a belt. Amongst other things, this assists in firmly anchoring the bottle to the item of clothing when a person is moving about.

- 5 Preferably, a strap is included for encircling the said container. The strap may include elastic material, inelastic material, or a combination of both. Preferably, the decorative logo is mounted to the strap and the decorative logo is arranged to lie on a surface of the container which is contoured to complement a surface of the logo. Typically the decorative logo may be arranged to lie within a recess in the container.

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In another broad form, the present invention seeks to provide a container including a cavity arranged for releasable engagement with an apparatus for releasably attaching a container to an item of clothing.

- 15 Preferably, the container includes a resilient plastic material. Also preferably, the container includes an opening in a top surface and an opening in a bottom surface. Furthermore, the container may also include a waist portion to improve gripping of the container when held in the hand.

- 20 In yet another broad form the present invention provides a combination including:

- an apparatus as discussed above for releasably attaching a container to an item of clothing; and
- a container as discussed above.

- 25 In yet another broad form, the present invention provides an apparatus for selectively combining substances including:

- a first portion for storing a first substance, the first portion having a first opening and a first releasable seal enclosing the first opening to prevent release of the first substance from the first portion;
- a second portion for storing a second substance, the second portion having a second opening and a second releasable seal enclosing the second opening to prevent release of the second substance from the first portion;

wherein said first portion is arranged to be connectable to said second portion in at least a first position and a second position, whereby in the first position the first and second releasable seals are unbroken, and in the second position the first and second releasable seals are broken, thereby allowing the first and second substances to combine.

Preferably, when the first portion is arranged in the second position, the first releasable seal is broken by the second opening, and the second releasable seal is broken by a piercing element.

Preferably, the second opening is a neck projecting outwardly of the second portion. Also preferably, a rim of the neck is serrated to allow for improved piercing of the first releasable seal.

Preferably, the first opening is a neck projecting inwardly of the first portion.

Typically the first releasable seal and the second releasable seal include a sheet of metal foil. It would be readily appreciated by a person skilled in the art that other suitable materials such as a plastic sheet may be used.

Preferably, the first portion is connectable to the second portion in at least a first position and a second position by screw thread engagement.

Preferably the piercing element includes a serrated edge positioned around the first seal.

Preferably, the first substance includes a soluble tablet. Preferably the second substance includes a liquid suitable for combining with a soluble tablet

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Brief Description of Drawings

The present invention will become more fully understood from the following detailed description of a preferred but non-limiting embodiment thereof, described in connection with the accompanying drawings, wherein:

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- Figure 1 shows an exploded side-view of a first embodiment of the present invention where the container is disengaged from an attachment means for releasably attaching the container to an item of clothing.

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- Figure 2 illustrates a perspective view of one aspect of an embodiment of the present invention.
- Figure 3 shows a side-view of another aspect of an embodiment of the present invention.

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- Figure 4 depicts yet another embodiment of the present invention in a partially exploded view.

Modes for Carrying out the Invention

- 25 Figure 1 shows a side view of a first embodiment of the present invention including a plastic container (1) and an apparatus for releasably mounting the container (1) to an item of clothing such as, but not limited to, a belt. As shown in Figs. 1 and 3 the container (1) is

substantially cylindrically-shaped and includes cavities (4,4'), a waist portion (9) and an opening (12).

As shown in Fig. 1, the first portion includes two protrusions (3,3') which are provided for
5 releasably engaging with the container (1). The protrusions (3,3') are mounted to a circular
plate (8) which mounts the protrusions (3,3') to a second portion which includes a clip (7).
The protrusions (3,3') are spaced-apart at opposite ends of the circular plate (8) to ensure
that they will engage the container (1) at substantially opposite ends of a longitudinal axis
(11) of the container (1). The circular plate (8) which fastens the protrusions (3,3') to the
10 clip (7) is made from a rigid plastic material.

The protrusions (3,3') are cylindrically-shaped and manufactured from a resilient plastic
material such that they are suitable for snap-fitting engagement with corresponding cavities
(4,4') disposed on the container (1). The corresponding cavities (4,4') are spaced apart on
15 the container (1) at a distance corresponding with the spacing of the protrusions so as to
enable alignment of the cavities (4,4') with the protrusions (3,3') during securement of the
container (1) to an item of clothing.

As mentioned above, in this embodiment, the second portion is a clip (7) which is spring-
20 biased to a closed position. The clip (7) is mounted to the circular plate (8) on a surface
opposite to that of the protrusions (3,3'). The clip (7) is able to be secured to a belt or any
other item of clothing.

As shown in Figs. 1 and 2, a strap (6) is attached to the circular plate (8) forming a loop
25 which is able to encircle the container (1) during securement. The strap (6) is made from
an elastic material and its length should be selected such that it may snugly accommodate
the cross-section of the container (1).

A decorative logo (10) is mounted to an outward-facing surface of the strap (6) such that

when the strap (6) encircles the container (1) the logo (10) is able to snugly rest within a recess (2) located substantially on the opposite side of the container (1) from where the cavities (4,4') are located. In the present embodiment, the recess (2) is of the same shape and dimensions as the decorative logo (10) so as to fully accommodate the logo (10). The
5 logo (10) is moulded from a single piece of thermoplastic material and is adhesively mounted to the strap (6) using a suitable glue or resin. It should be noted that although in this embodiment it is the surface of the container (1) which provides a recess (2) for receiving the shape of the logo, a reverse arrangement may be envisaged in other embodiments wherein the logo (10) includes a cavity which is contoured to
10 complementarily received by a projecting surface of the container (1).

A second embodiment of the present invention is depicted in Fig. 4 which shows an exploded view of a first portion (13) for releasably storing a first substance (22) which in this embodiment includes a liquid, and a second portion (14) for releasably storing a
15 second substance (16) which in this embodiment includes a tablet soluble in the liquid. The first portion (13) and the second portion (14) are connectable in at least a first position and a second position. When the first portion is arranged in the first position the first releasable seal (20) and the second releasable seal (26) are unbroken such that the first substance (22) and second substance (16) are not free to combine. However, when the first portion (13) is
20 arranged in the second position, the first releasable seal (20) and the second releasable seal (26) are broken such that the first substance (22) and second substance (16) are freely able to combine.

The first portion (13) includes a first opening (19) which is formed as a neck that
25 outwardly projects from the first portion (13). The first opening (19) has a rim (21) that is a serrated edge. The first opening is enclosed by a first releasable seal (20) made at least partially from a metallic foil sheet. The releasable seal encloses a cross-section of the first opening in an air-tight and water-tight arrangement using techniques commonly known to persons skilled in the art. The use of a foil sheet is such that the first releasable seal (20) is
30 sufficiently rigid to retain the first substance within the first portion whilst also being

breakable by a piercing element (17) when the first portion (13) is arranged in the second position. Also, in this embodiment, the first portion (13) includes a drinking spout (24) and a cap (25).

- 5 The second portion (14) includes a second opening (18) which in this embodiment is a neck projecting inwardly of the first portion (13). A second releasable seal (26) encloses the second opening (18) to prevent the second substance from exiting the second opening (18) when the first substance (22) and the second substance (16) are not ready to be combined. The second releasable seal (26) is also made from a meal foil sheet which is
10 able to be pierced by the serrated rim (21) of the first opening (19) when the first portion (13) is arranged in the second position.

A piercing element (17) is mounted to the base (23) of the second portion (14) within the neck of the second opening (18). The piercing element (17) serves as both a platform for
15 the tablet and also includes a serrated edge to assist in piercing of the first releasable seal when the first substance (22) and the second substance (16) are to be combined. It will be readily apparent to a person skilled in the art that the dimensions and positioning of the piercing element (17) should be selected to suit the specific user's requirements and in particular the serrated edge of the piercing element (17) should be able to pierce the first
20 releasable seal (20) when the first portion (13) is arranged in the second position.

The first portion (13) and the second portion (14) are connectable by way of screw-thread engagement. A screw thread (15) is disposed on the inner surface of the second portion (14) which engages with a complementary thread (15') disposed on the outer surface of the
25 first portion (13). The dimensions of the screw threads (15, 15') should be selected to allow the first portion (13) to be connected sufficiently to the second portion (14) whereby the first releasable seal (20) and the second releasable seal (18) can be broken when the first portion (13) is arranged in the second position such that the first substance (22) and second substances (16) are free to be combined.

In the present embodiment, the first portion (13) is partially screwed on to the second portion (14) in when the first portion is arranged in the first position. In the first position, the first releasable seal (20) and the second releasable seal (26) remain unbroken such that the first substance (22) and the second substance (16) are unable to be combined. When the
5 first portion (13) is screwed further on to the second portion (14), the first portion (14) arrives at the second position at which point both the second releasable seal (26) is pierced by the serrated rim (21) of the first releasable seal (20), and the piercing element (17) pierces the first releasable seal (20) whereby the first substance (22) and the second substance (16) are able to freely combine.

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In this particular embodiment it will be apparent to the person skilled in the art that the piercing element (17) must be narrower than the rim (21) of the first opening (19) in order to effectively pierce the first releasable seal (20). Furthermore, the rim of the second opening (18) should be wider than the rim of the first opening (19) in order for the rim (21)
15 of the first opening (19) to pierce the second releasable seal (26).

The reference to any prior art in this specification is not, and should not be taken as, an acknowledgment or any form of suggestion that that prior art forms part of the common general knowledge in Australia.

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Those skilled in the art will appreciate that the invention described herein is susceptible to variations and modifications other than those specifically described without departing from the scope of the invention. All such variations and modification which become apparent to persons skilled in the art, should be considered to fall within the spirit and scope of the
25 invention as broadly hereinbefore described. It is to be understood that the invention includes all such variations and modifications. The invention also includes all of the steps and features, referred or indicated in the specification, individually or collectively, and any and all combinations of any two or more of said steps or features.

Throughout this specification and the claims which follow, unless the context requires otherwise, the word "comprise", and variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or steps. In this regard, in construing the claim scope, an embodiment where one or more features is added to any of the claims is to be regarded as within the scope of the invention given that the essential features of the invention as claimed are included in such an embodiment.